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A49
ESTROGENS MODULATE EXPRESSION OF CATHEPSIN D AND ACTIN IN A RAT MODEL OF PARKINSON'S DISEASE

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Parkinson's disease (PD) is a neurodegenerative disorder characterized by the progressive loss of dopaminergic neurons from substantia nigra pars compacta (SNc). A genetic study identified 24 loci that are associated with PD; 11 of them are involved in/or disrupt various functions of the autophagic-lysosomal pathway. Lysosomes participate in the degradation of macromolecules from endocytosis and autophagy processes. Epidemiological and clinical studies reveal a difference in the development of PD between genders, giving sex hormones a neuroprotective function and making them an interesting therapeutic proposal. The objective of this study is to analyze the effect of estrogens on the expression of lysosomal proteins in a rat model with the PD phenotype. Two-month-old male Sprague-Dawley rats were subjected to stereotaxic surgery to administer 6-hydroxydopamine (6-OHDA) or artificial cerebrospinal fluid (V) to the left striatum. After 7 days, they received chronic treatment for 10 days with 17-β-estradiol (E) or V. The groups were made up of C (V lesion); E (V + E injury); HP (6-OHDA injury) and HPE (6-OHDA + E injury). After the treatments, the animals were sacrificed, and the substantia nigra and prefrontal cortex were extracted and homogenized. Membranous and cytosolic fractions of the prefrontal cortex were obtained by differential centrifugation. The samples were processed for immunoblotting using antibodies against cathepsin D (CatD) and actin. Preliminary results show that chronic treatment with estrogens increases the expression of CatD and actin in the substantia nigra, and in the prefrontal cortex both proteins are increased in the cytosolic fraction. Since CatD reduces the α-synuclein concentration in PD, the results suggest that an increase of the lysosomal function would exert neuroprotective action on cells affected by the disease. Likewise, it is worth mentioning that estrogens could also modulate the organization of the cytoskeleton, as a stage in neuromodulation.

A50
EFFECTS OF *Prosopis strombulifera* (LAM.) BENTH AQUEOUS EXTRACT IN AN *IN VIVO* MODEL OF CUTANEOUS LEISHMANIASIS

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The leishmaniasis are a spectrum of diseases caused by infection with protozoal pathogens of the genus *Leishmania*, with an estimated 2 million new cases per year. *Leishmania* parasites are transmitted to a mammalian host through the bite of an infected sand fly. The clinical forms of the disease (cutaneous, mucocutaneous and visceral leishmaniasis) depend on the *Leishmania* species involved. In Argentina, it affects the northern region of the country with an incidence that has increased in the last two decades. Current treatments for leishmaniasis are unsatisfactory due to the associated high toxicity, cost, complex administration, and the emergence of resistant strains. Efforts have increased considerably in the last decade to identify new compounds with anti-leishmanial properties. Therefore, a strategy in the search for new compounds is the detection of purified molecules from plant sources. There are more than five hundred species of plants in the province of Mendoza, in the central west of Argentina, for which "folk medicine" has described various uses to preserve and help health. *Prosopis strombulifera* (Ps) has been used as an astringent, anti-inflammatory, and antidiarrheal agent. Recent studies have confirmed its biological activities against different microorganisms. The aqueous extract (AE) has been shown to be non-toxic in experimental animals. We evaluated the effect of PsAE in an in vivo model of cutaneous leishmaniasis. Male BALB/c mice were infected in the right hind paw pad with 1×10^5 *L. amazonensis* promastigotes and treated with PsAE 150 mg/animal/day administered orally in the drinking water, ad libitum. We observed that the treatment with the aqueous extract diminishes the swelling of the infection site compared to the mice treated with Glucantime, which was used as a positive treatment control. This is related to the significant decrease in parasite load, splenic index, and observed IgG levels. Although many more tests need to be done, PsAE may be effective in treating cutaneous leishmaniasis.

A51
SECONDARY STRUCTURE OF DOMAIN III OF THE NON-CODING RIBOSOMAL GENE 12S rRNA FROM SPECIES OF THE GENUSES *Heleobia* AND *Potamolithus* (GASTROPODA: TATEIDAE)

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The secondary structure of ribosomal markers is often useful for inferring phylogenetic relationships in mollusks and as supplementary information to overcome difficulties in the alignment of DNA sequences with high levels of insertion/deletion events. Alignment of non-coding DNA sequences poses particular problems since the conserved characteristics used to assume position homologies are not found in the nucleotide sequences themselves, but in the derived molecular structure. For this reason, the analysis of ribosomal genes requires structural information -in which the changes of nucleotide bases are relegated against the conserved structural characteristics-. This requires obtaining information on the variants in which the bases can be arranged throughout the sequences, such as covariation between sectors corresponding to stems formed by base complementarity in the secondary molecular structure of ribosomal RNA, or the more permissive variation in sectors of loops. The genetic material was obtained from the muscular tissue of the foot of specimens collected in localities of Cuyo (*Heleobia hatcheri*, (Pilsbry, 1911) and *Heleobia sp3*)